

forming a dielectric on the first electrode and an uppermost surface of the substrate assembly;
and
forming a second electrode on the dielectric and the uppermost surface of the substrate assembly.

REMARKS

In the Office Action, claims 38-43, 45-49 and 51-60 were rejected. In addition, claims 52 and 57 were objected to for grammatical reasons. By this amendment, claims 38, 49, 51-52 and 57-58 have been amended. Thus, claims 38-43, 45-49 and 51-60 remain pending. For the reasons set forth hereinbelow, Applicants request that the rejections associated with the pending claims be withdrawn.

Section 102(b) Rejections

Claims 38-39, 41-43 and 45-49

Independent claim 38 was rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent 5,478,772 (Fazan). Applicants have herein amended claim 38 to clarify that the second electrode is formed on the dielectric and the uppermost surface of the substrate assembly. Applicants respectfully submit that amended claim 38, and claims 39, 41-43 and 45-49 which depend therefrom, are not anticipated by Fazan. Accordingly, Applicants respectfully request withdrawal of the § 102(b) rejections associated with these claims.

Section 102(e) Rejections

Claims 38-43, 45-49 and 51

Independent claim 38 was also rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent 6,222,722 (Fukuzumi). Applicants have herein amended claim 38 to clarify that the second electrode is formed on the dielectric and the uppermost surface of the substrate assembly. Applicants submit that amended claim 38 is not anticipated by Fukuzumi because Fukuzumi fails to disclose each and every element of amended claim 38. *See* MPEP § 2131 (stating that a claim is anticipated only if each and every element as set forth in the claim is disclosed in a single prior art reference). More particularly, Applicants submit that Fukuzumi fails to disclose, among other elements, “forming a second electrode on the dielectric and the uppermost surface of the substrate assembly.”

Applicants submit that Fukuzumi, referring, for example, to Figure 6 thereof, merely discloses an upper electrode 9 (referred to in the Office Action as the second electrode) formed only on the high-dielectric film 8 - *not* on the dielectric and the uppermost surface of the substrate assembly as recited in amended claim 38. Therefore, Applicants submit that amended claim 38, and claims 39-43, 45-49 and 51 which depend therefrom, are not anticipated by Fukuzumi. Accordingly, Applicants respectfully request withdrawal of the § 102(e) rejections associated with these claims.

In addition, Applicants submit that amended claim 51, when read to incorporate all of the limitations of base claim 38, is not identical to amended claim 52.

Claims 52-57

Independent claim 52 was rejected under 35 U.S.C. § 102(e) as being anticipated by Fukuzumi. Applicants have herein amended claim 52 to clarify that the second electrode is formed on the dielectric and the uppermost surface of the substrate assembly. For reasons analagous to those set forth with respect to claim 38, Applicants submit that amended claim 52, and claims 53-57 which depend therefrom, are not anticipated by Fukuzumi. Accordingly, Applicants respectfully request withdrawal of the § 102(e) rejections associated with these claims.

In addition, Applicants submit that claims 52 and 57, as amended, are grammatically correct. Accordingly, Applicants respectfully request that the objections to claims 52 and 57 be withdrawn.

Claims 58-60

Independent claim 58 was rejected under 35 U.S.C. § 102(e) as being anticipated by Fukuzumi. Applicants have herein amended claim 58 to clarify that the second electrode is formed on the dielectric and the uppermost surface of the substrate assembly. For reasons analgous to those set forth with respect to claim 38, Applicants submit that amended claim 58, and claims 59-60 which depend therefrom, are not anticipated by Fukuzumi. Accordingly, Applicants respectfully request withdrawal of the § 102(e) rejections associated with these claims.

Section 103(a) Rejections

Claims 40-43, 45 and 48

Claims 40-43, 45 and 48 depend from claim 38, and were rejected under 35 U.S.C. § 103(a) as being obvious over Fazan and/or Fukuzumi. For reasons similar to those set forth hereinabove, Applicants submit that independent claim 38 is nonobvious over the cited references because the cited references, either alone or in combination, fail to teach or suggest each and every element of amended claim 38. *See* MPEP § 2143 (stating that one of the elements of a *prima facie* case of obviousness under § 103(a) is that the cited reference must teach or suggest every limitation of the claimed invention). Applicants further submit that claims 40-43, 45 and 48, which depend from claim 38, are also nonobvious over the cited references. *See* MPEP §2143.03 (stating that if an independent claim is nonobvious under §103(a), then any claim depending therefrom is nonobvious). Accordingly, Applicants respectfully request withdrawal of the §103(a) rejections associated with these claims.

Marked-Up Version of Changes Made to Claims

Attached hereto is a marked-up version of the changes made to the claims by this amendment. The first page of the marked-up version is captioned **“VERSION WITH MARKINGS TO SHOW CHANGES MADE.”**

CONCLUSION

Applicants respectfully request a Notice Of Allowance for the pending claims in the present application. If the Examiner is of the opinion that the present application is in condition for disposition other than allowance, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below in order that the Examiner's concerns may be expeditiously addressed.

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Claims

The claims have been amended as indicated below.

38. (Amended) A method of forming a capacitor including:
forming a first electrode selected from a group consisting of transition metals, conductive metal-oxides, alloys thereof, and combinations thereof;
[forming a second electrode; and]
forming a dielectric [between said first and second electrodes.] on the first electrode and an uppermost surface of a substrate assembly; and
forming a second electrode on the dielectric and the uppermost surface of the substrate assembly.

49. (Amended) The method of claim 38, further comprising forming [a] the substrate assembly before forming the first electrode.

51. (Twice Amended) The method of claim 38, wherein forming the first electrode includes:
forming a layer of hemispherical grain on the substrate assembly; and
forming the first electrode on the hemispherical grain polysilicon.

52. (Amended) A method of forming a capacitor, comprising:

- forming a layer of hemispherical grain polysilicon;
- forming [the] a first electrode on the hemispherical grain polysilicon, wherein the first electrode is selected from a group consisting of transition metals, conductive metal-oxides, alloys thereof, and combinations thereof;
- [forming a second electrode; and]
- forming a dielectric [between said first and second electrodes.] on the first electrode and an uppermost surface of a substrate assembly; and
- forming a second electrode on the dielectric and the uppermost surface of the substrate assembly.

57. (Amended) The method of claim 52, further comprising forming [a] the substrate assembly before forming [a] the first electrode.

58. (Amended) A method, comprising:

- forming a substrate assembly;
- forming a layer of hemispherical grain polysilicon on the substrate assembly;
- forming [the] a first electrode on the hemispherical grain polysilicon, wherein the first electrode is selected from a group consisting of transition metals, conductive metal-oxides, alloys thereof, and combinations thereof;

[forming a second electrode;]

[forming a dielectric between said first and second electrodes;]

removing a portion of the substrate assembly; [and]

removing the hemispherical grain polysilicon[.];

forming a dielectric on the first electrode and an uppermost surface of the substrate assembly;

and

forming a second electrode on the dielectric and the uppermost surface of the substrate assembly.